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Telephone Ext:

OFFICE MEMORANDUM

TO : Hugh Murphy

DATE: May 15, 1981

FROM : Zora Dash

SUBJECT : COMPARISON OF EE-1 TEMPERATURE LOGS FROM EXP 215 THROUGH EXP 217 TO PREVIOUS LOGS

SYMBOL : G-5

MAIL STOP: 981

The review of available temperature surveys conducted in EE-1 has been updated, following the format of the previous mems, 1) "The Growing Number of EE-1 Connections," G-3/77/#52 (8/18/77) and 2) "Comparison of Exp. 205 Temperature Logs with Previous Logs," (4/2/79). The temperature logs presented here are all plotted to the same depth scale for ease of comparison. All depths plotted are logging cable depths and depths referred to here will be cable depths.

Figures 1-3 are composites of the most recent temperature logs which have no previously been discussed. Figures 4-27 are individual EE-1 temperature logs presented in chronological order. Table 1 is a summary of the available non-flowing logs and depths at which flow connections may be seen.

To summarize, EE-1 temperature logs have shown ten connections through time. Connection 1 was apparent by 10-20-75 and can be seen on most of the temperature logs. However, from the time of the 75-day heat extraction test (1-28-78 to 4-13-78) until Exp. 205 (3-28-79) it was very difficult or impossible to distinguish (Figures 12-16). After the recementing and MHF operations of 3/79 this connection reappeared as a distinct temperature depression (Figure 17). Connections 5 and 6 were the next to appear on the log of 2-9-76 (Figure 5). They last appear as two distinct connections on the log of 9-5-78 (Figure 14). From then on they generally appear as one depression on the temperature logs.

Connections 2, 3, and 4 appeared on the log of 7-27-76 (Figure 6). They can be seen on most of the EE-1 temperature logs since that time, but they are undistinguishable on the early time post-215 and 217 recovery logs.

Connections 8 and 9 were also seen on the log of 7-27-76; however, they did not substantially appear until the log of 6-16-76 (Figure 10) when connections 7 and 7a also appeared.

Comparison of EE-1 temperature logs from
Exp 215 through Exp 217 to previous logs -
Z. Dash

EXP 215 (RUN SEGMENT 4) TEMPERATURE LOGS

Experiment 215 was run from October 23 to November 15, 1979. Figure 1 is a composite plot showing pre-215 and post-215 temperature logs. The pre-215 log distinctly shows nine connections (5 and 6 are considered as one connection) while the post-215 logs show only seven. Connection 7 cannot be seen while connection 8 is barely distinguishable on the post-215 logs. Figure 2 is a composite plot of the post-215 recovery logs. As can be seen, as the well recovers the distinguishable temperature depressions become more apparent and are shifting downhole to their proper positions. Figure 18 is a flowing temperature log taken during Exp 215.

EXP 217 (RUN SEGMENT 5) TEMPERATURE LOGS

Experiment 217 was conducted from March 10, 1980 to December 16, 1980. In Figure 1 it can also be seen how the system had recovered since Exp 215 prior to the start of Exp 217. Figure 3 shows a composite plot of the pre-217 temperature log and the two post-217 recovery logs run to date. As can be seen, the system is still not sufficiently recovered to clearly distinguish previous EE-1 connections. Figures 26 and 27 are individual plots of the two recovery logs and show connections more clearly as they appear. Although identification of connections on these logs is tentative, it appears that one, possibly two or more new connections have formed since Exp 217 operations. These connections have been labeled 1a (Fig. 26) and 2a (Fig. 27). Other Exp 217 logs are included as Figures 23-25, they include both flowing and short-term shut-in temperature logs, taken during loop operations.

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Table 1
Connection Depths from Background and Recovery Logs

Figure No.	Log Date	1	2	3	4	5	6	7	7a	8	9
-	10-20-75	9675									
4	12-24-75	~9700									
5	2-09-76	~9680	--								
6	7-27-76	9700	9525	9350	9125	~9020	~9025	~8945			
7	9-02-76	9700	9495	~9300	9125	~9020	8920				
8	10-07-76	~9680	9490	~9320	9115	~9040	8940				
9	1-26-77	9660	9500	9320	9120	9040	8940				
10	6-16-77	~9660	9505	9330	9120	9020	8960	8790	~8660	8365	8220
11	7-20-77	9690	9510	~9340	~9140	~9020	8970	8780	~8630	8375	8220
12*	5-05-78	~9710	9605	9350	~9205	~9080>				8460	8380
13+	6-02-78	--	9530	~9300	9120	<9000>	8990	8750	8610	8370	8190
14	9-05-78	--	9525	~9310	9140	9050	8990	8760	8610	8355	8200
15+	11-13-78	--	9530	~9300	~9120	<8980>		~8800	8620	8340	8185
16+	12-18-78	~9670	9530	9300	9140	<8990>		~8800	8610	8340	8190
17+	3-28-79	9660	9510	9310	9080	<8980>		8740	8610	8350	8190
19**	11-29-79	~9600	~9250	--	<~8830>					~8400	--
20**	12-06-79	9590	9380	--	<~8900>					8510	--
21	12-19-79	9630	9450	9280	9050	<8940>				8590	~8380
22	2-27-80	9625	9470	9300	9060	<8960>				8580	~8350
26***	1-21-81	9500	~9090	~8870	<~8780>					~8425	~8280
27***	3-17-81	9570	9300	~9020	8890	<8850>		8690	~8500	8300	8215

[†]In memo of 4-2-79 these temperature logs were adjusted to a common depth level.

* Recovery log taken after 75-day heat extraction test (test ended 4/13/78).

** Recovery log taken after Exp 215 (Exp 215 ended 11/15/79).

*** Recovery log taken after Exp 217 (Exp 217 ended 12/16/80).

Correlation with previous logs is questionable and connections are tentatively identified.

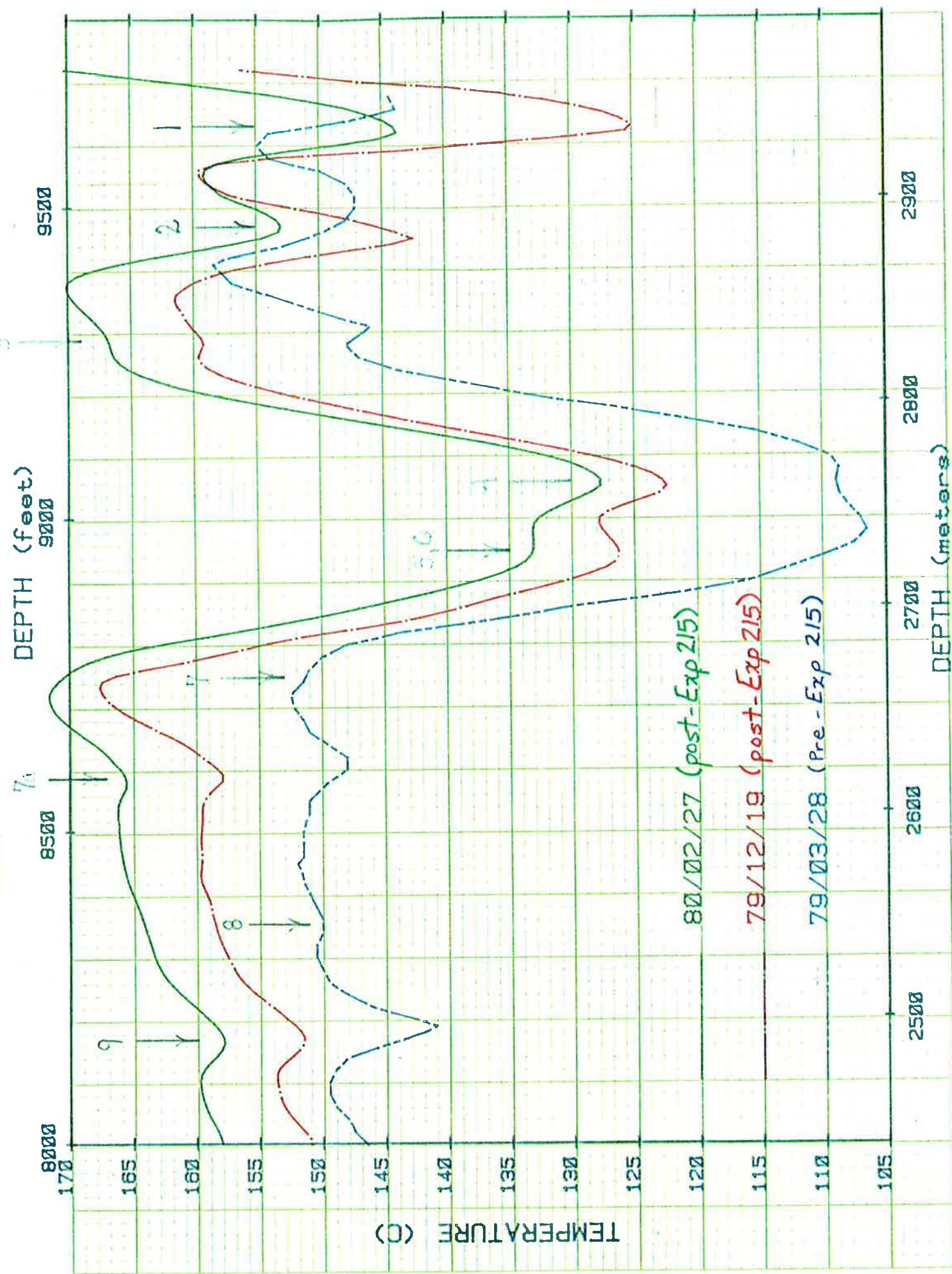


Figure 1

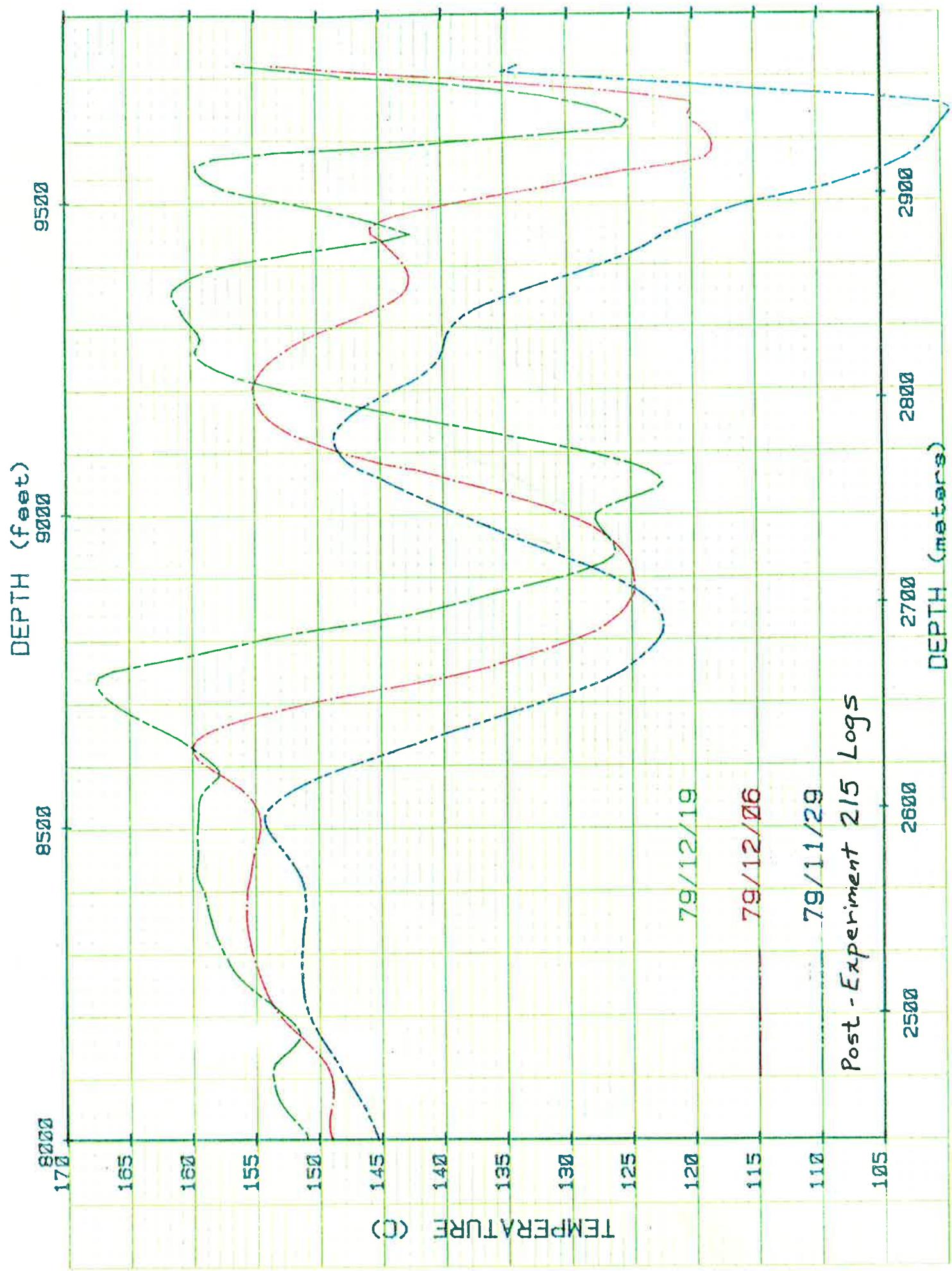


Figure 2

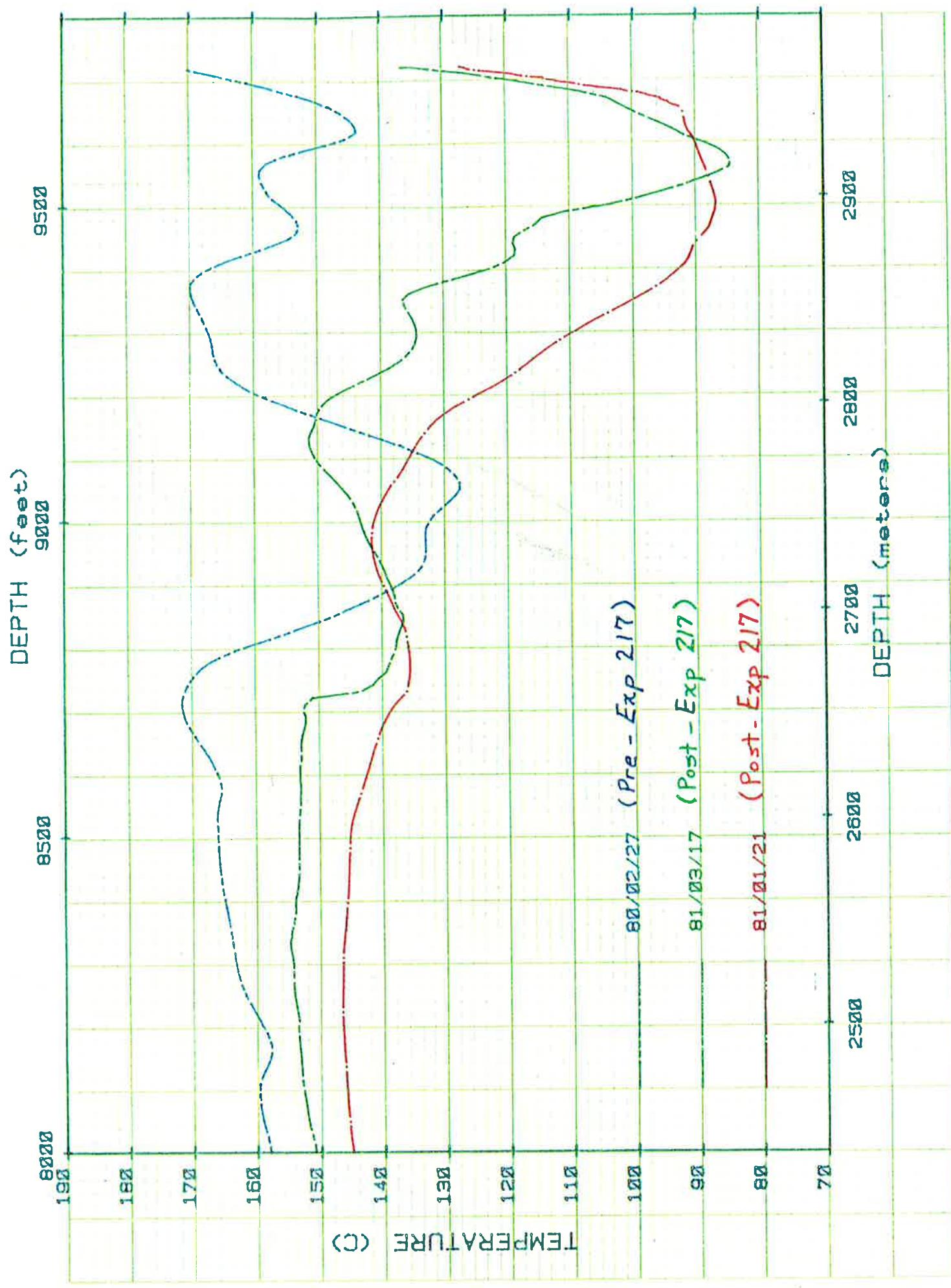


Figure 3

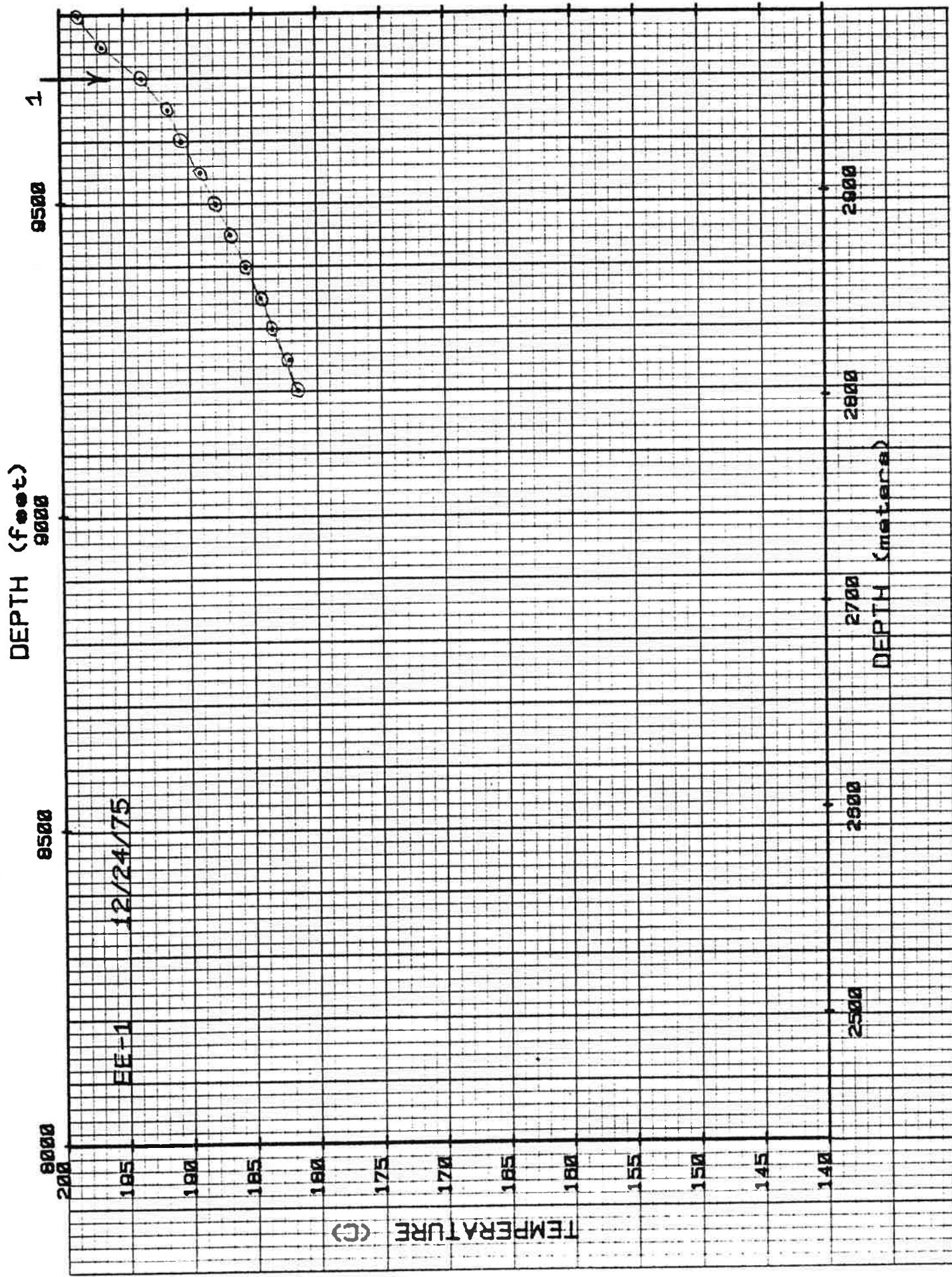


Figure 4

SQUARE 5 X 5 TO THE HALF INCH AS 0011 - 60

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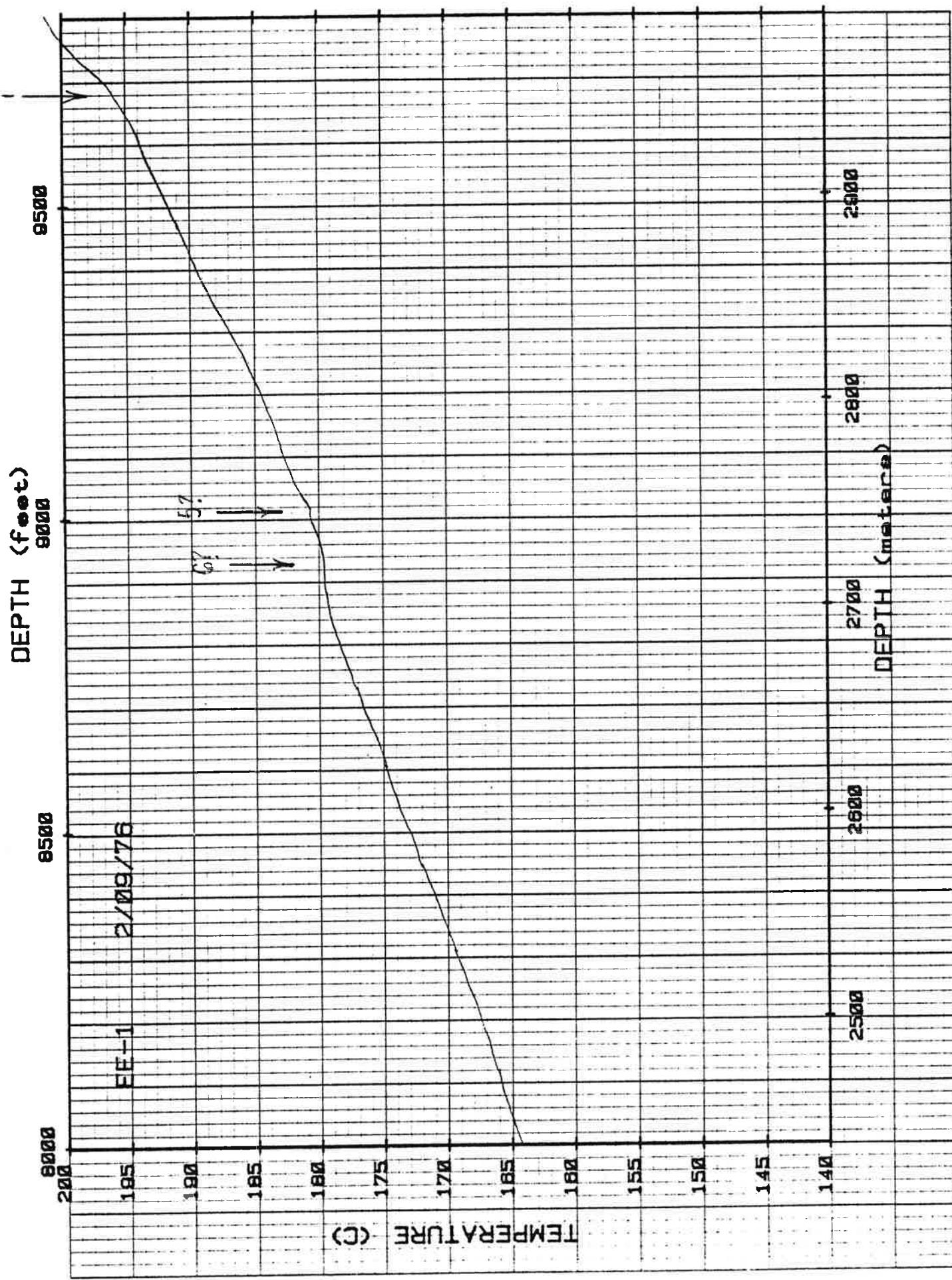


Figure 5

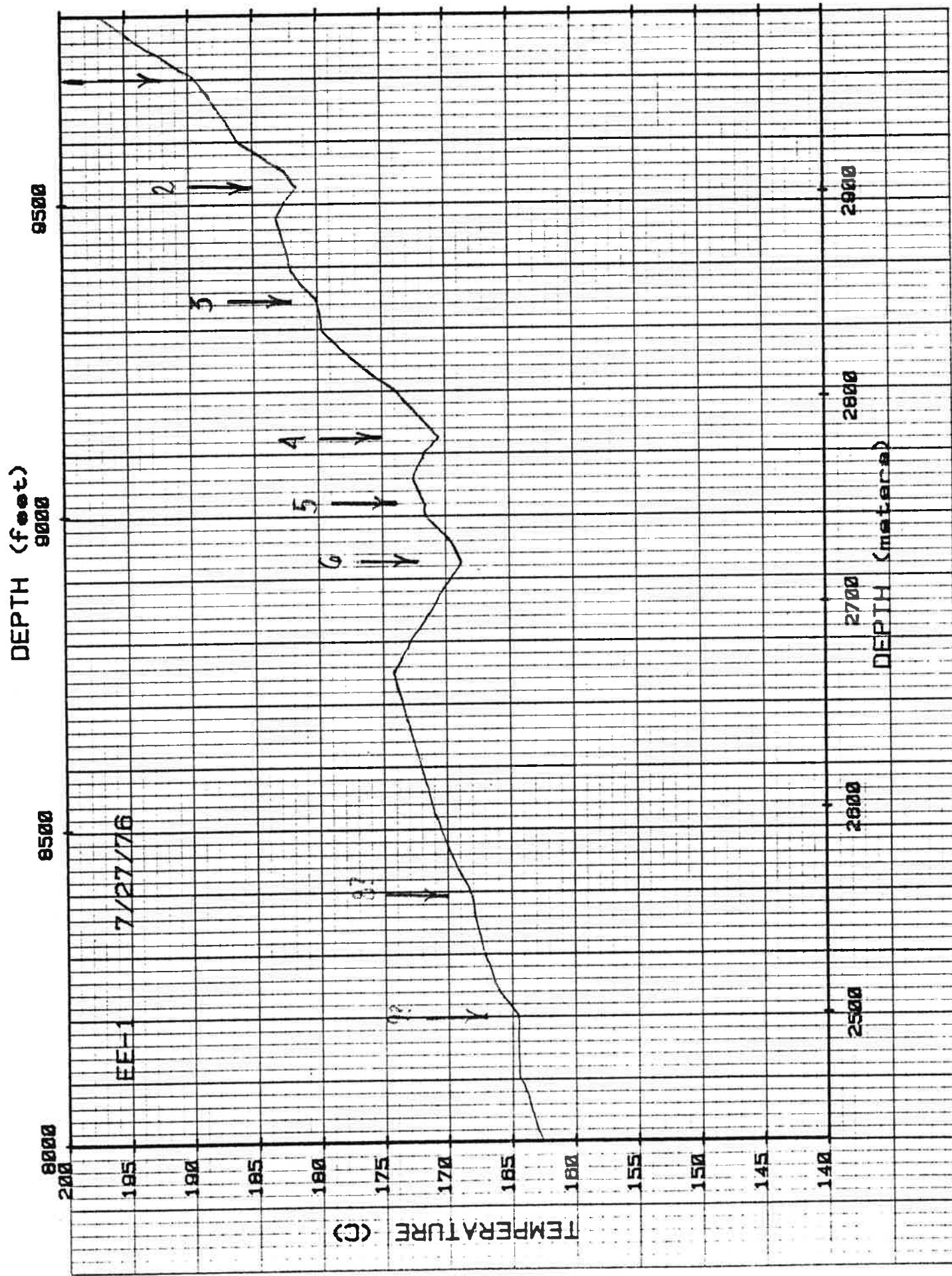


Figure 6

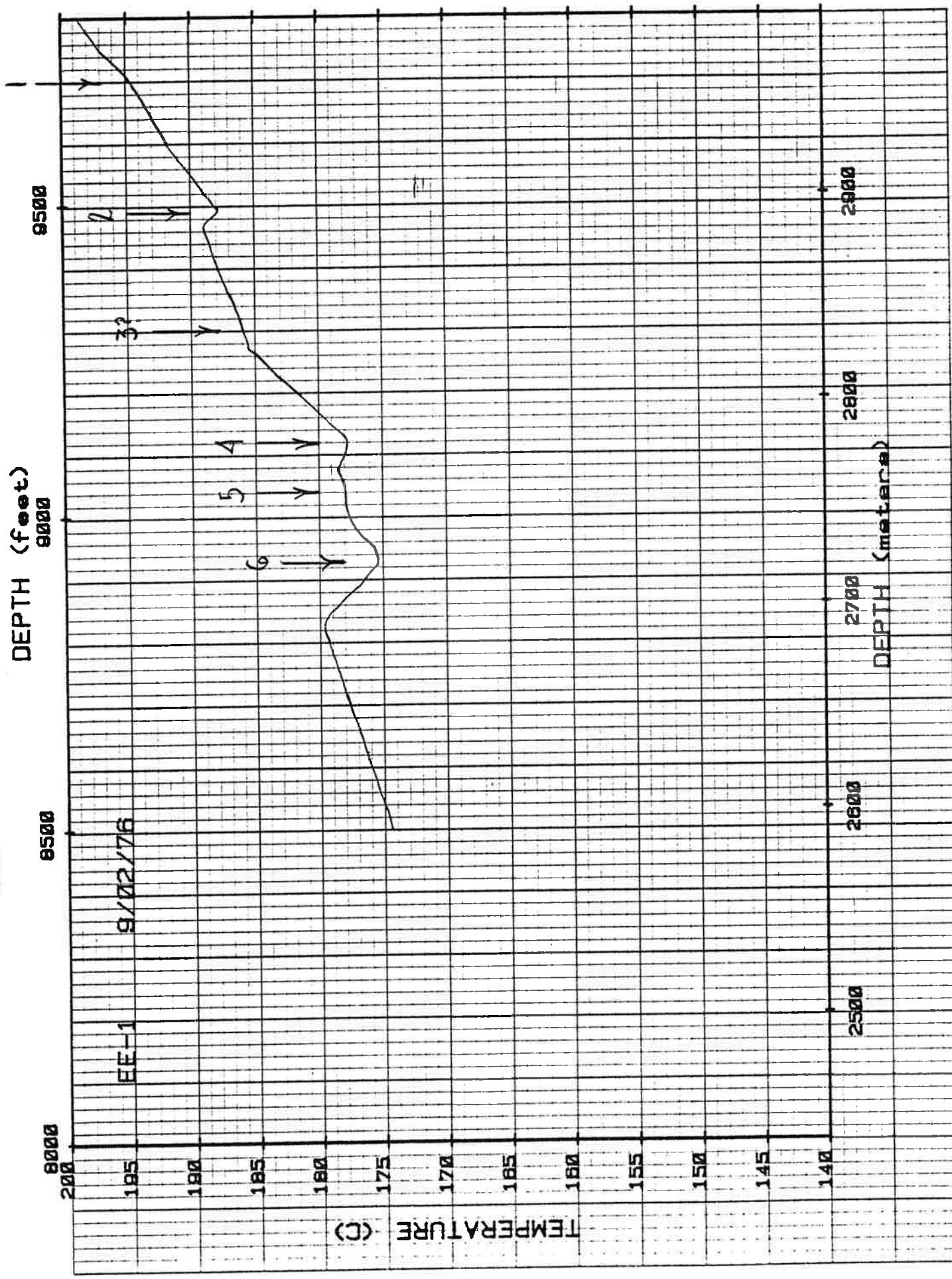


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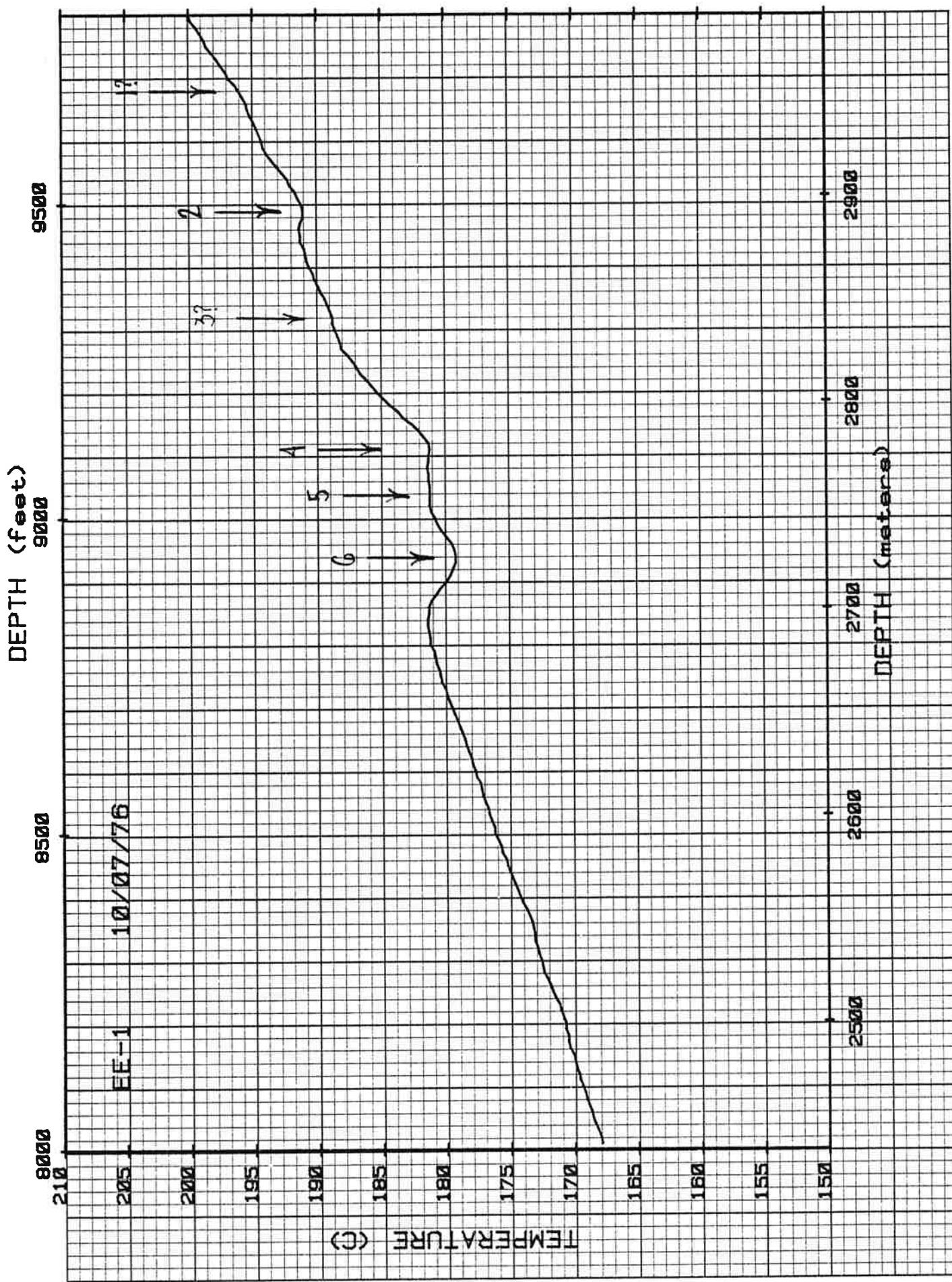


Figure 8

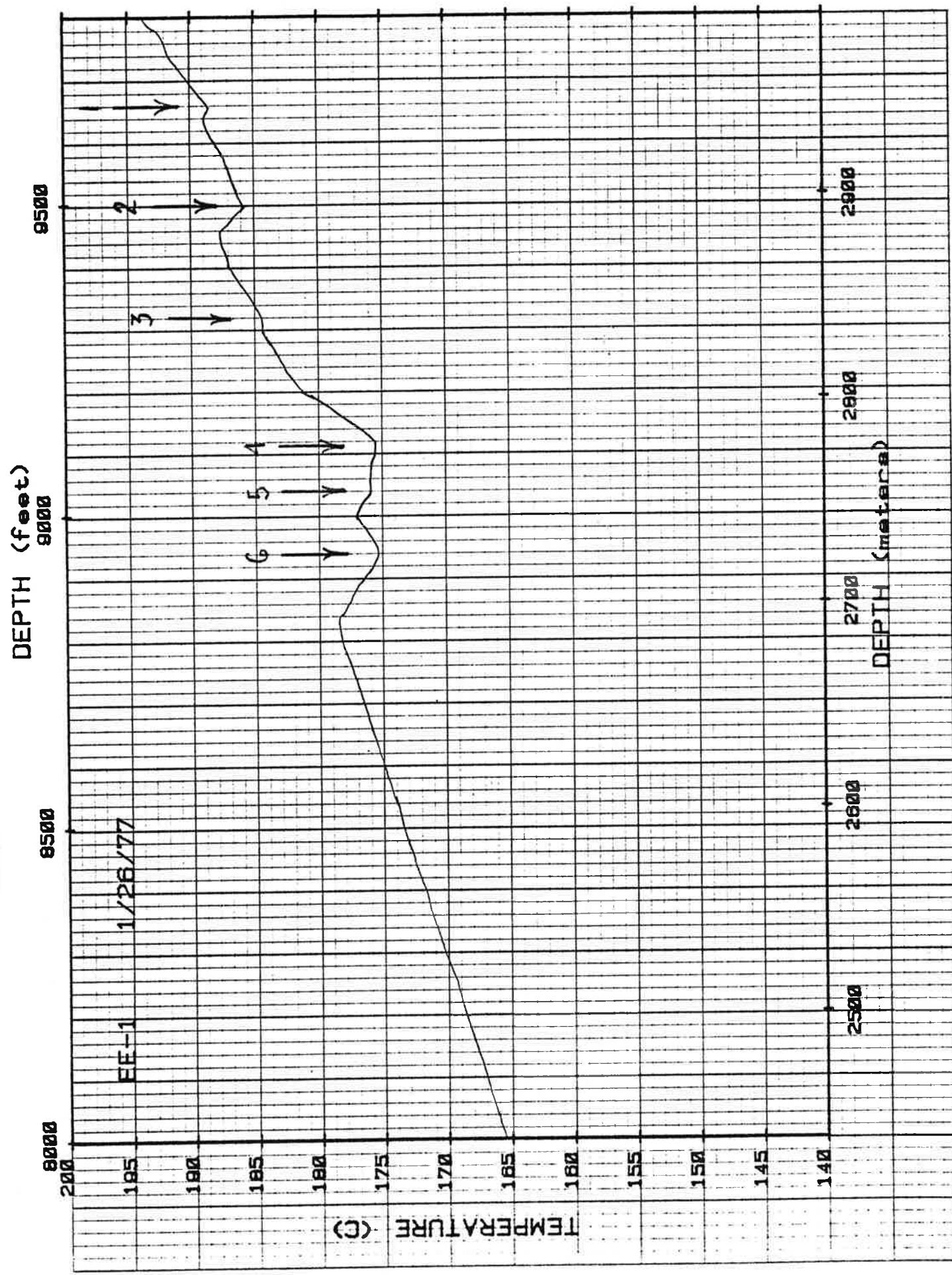


Figure 9

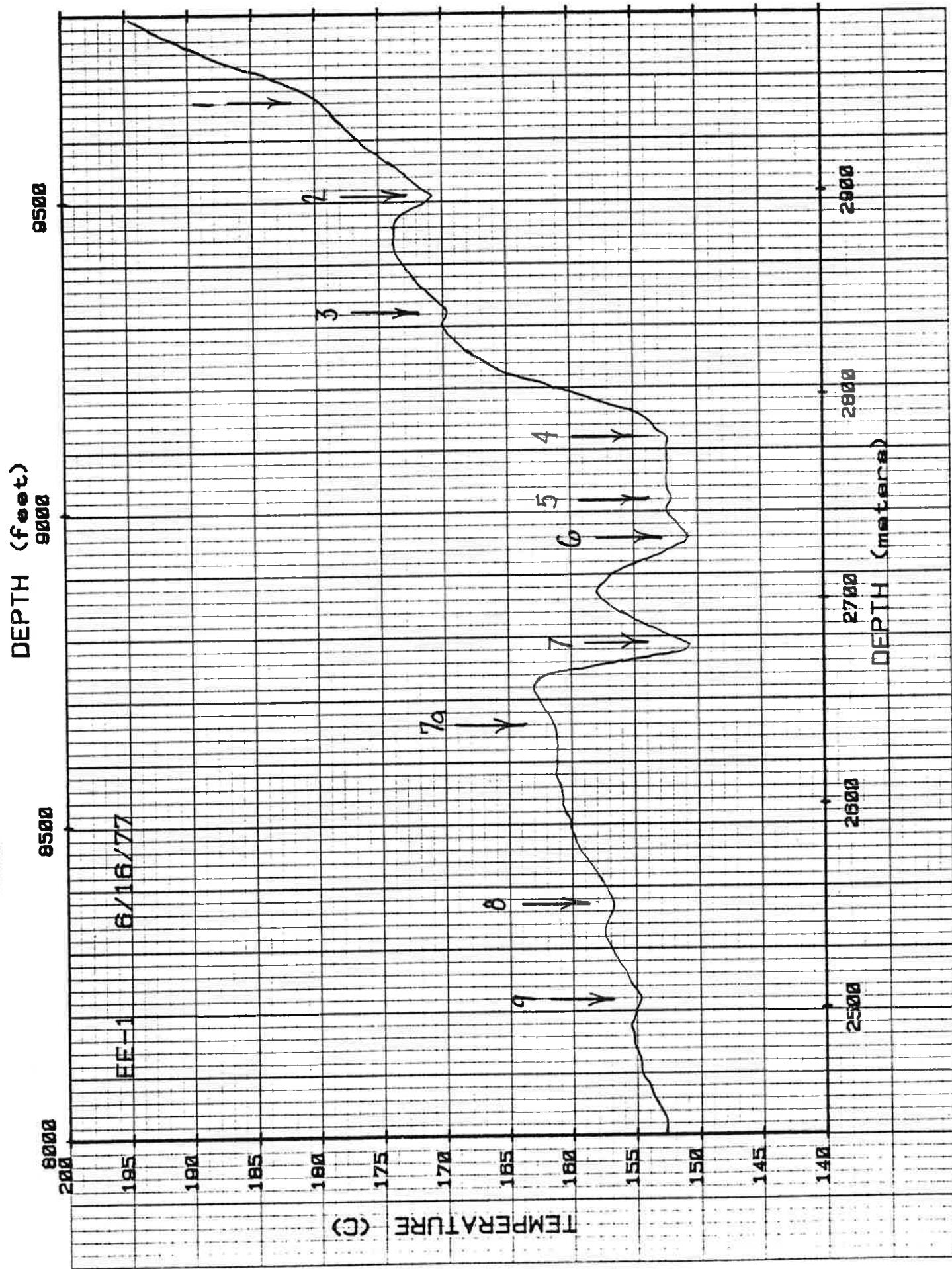


Figure 10

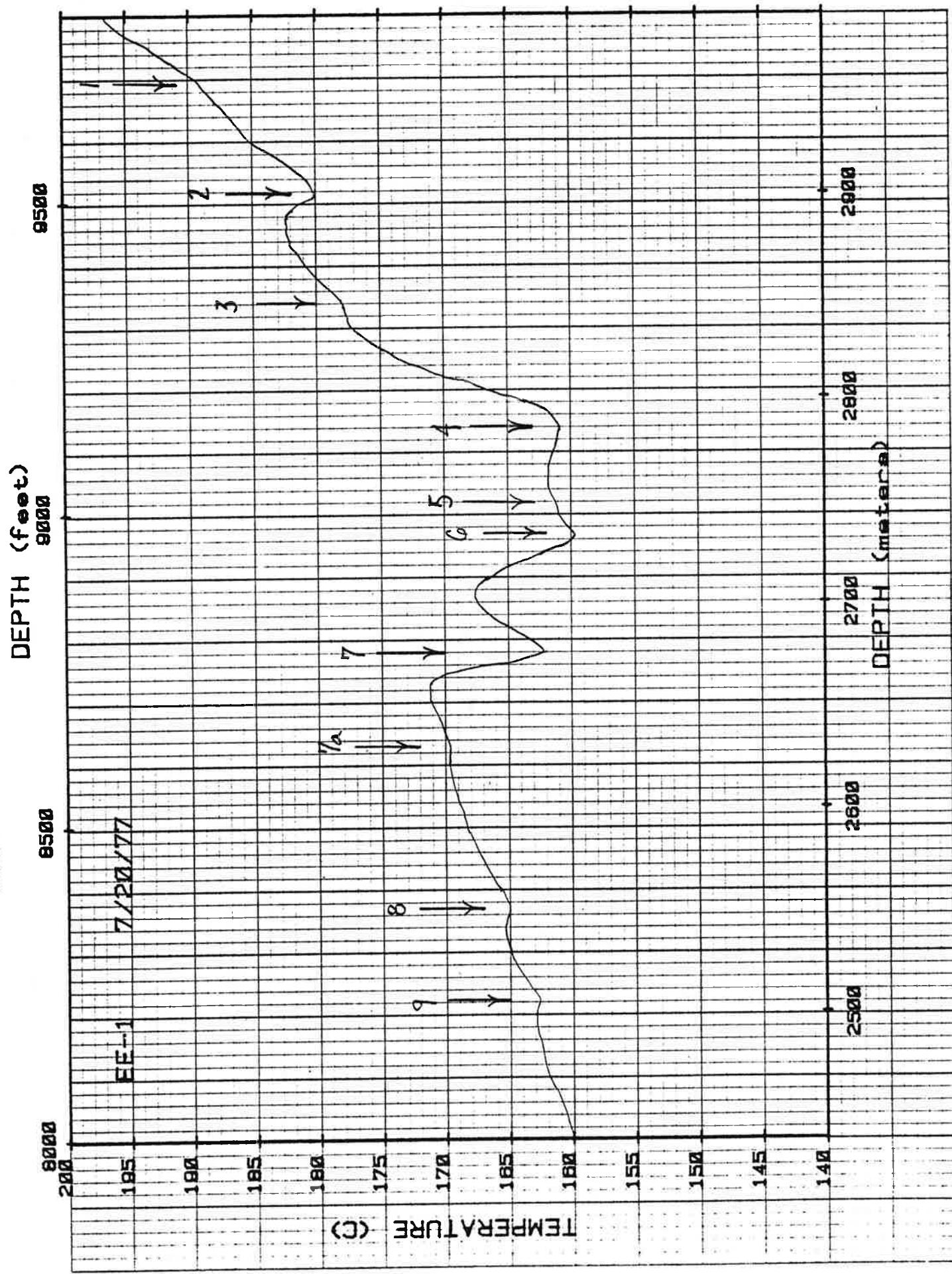


Figure 11

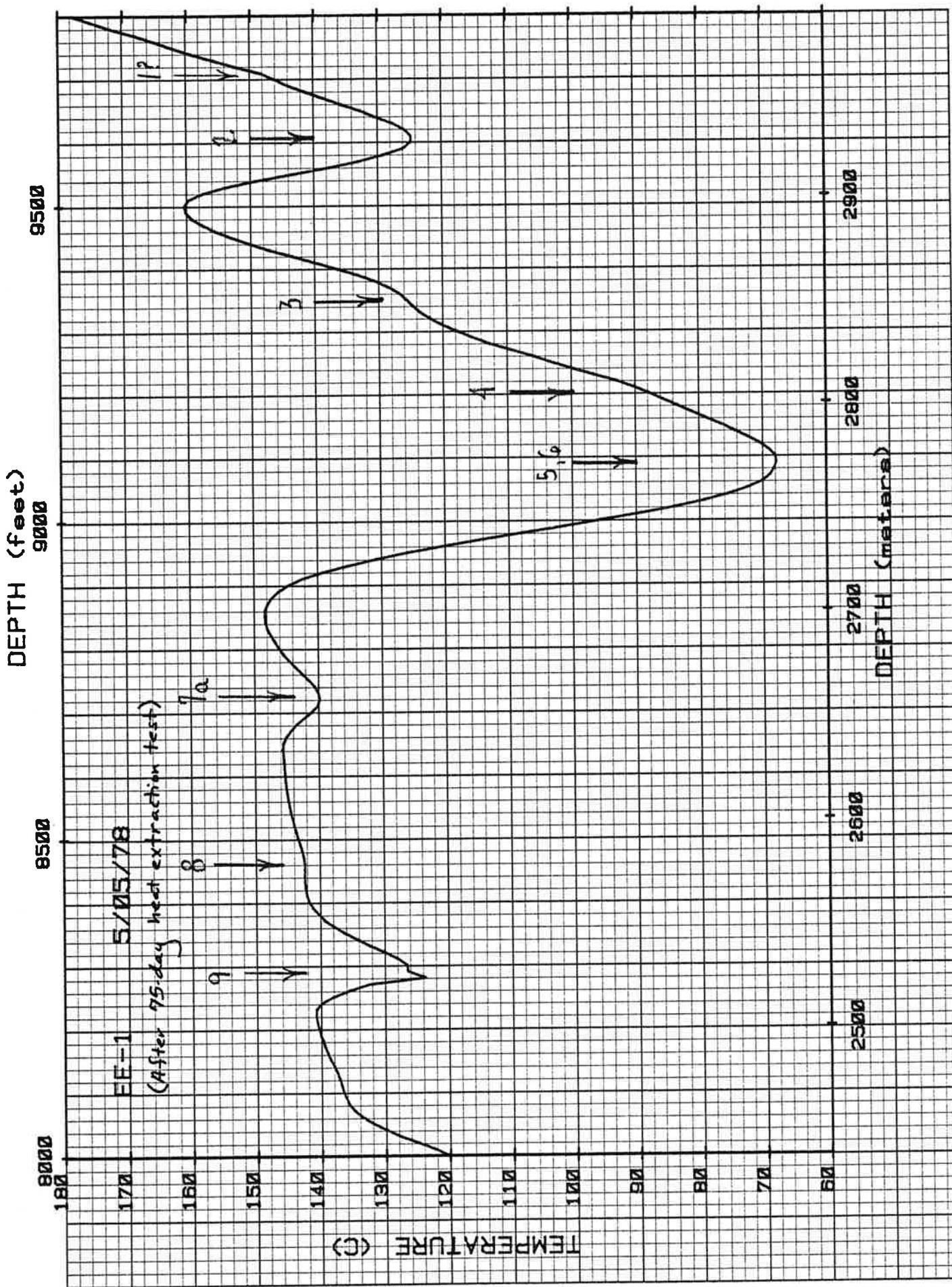


Figure 12

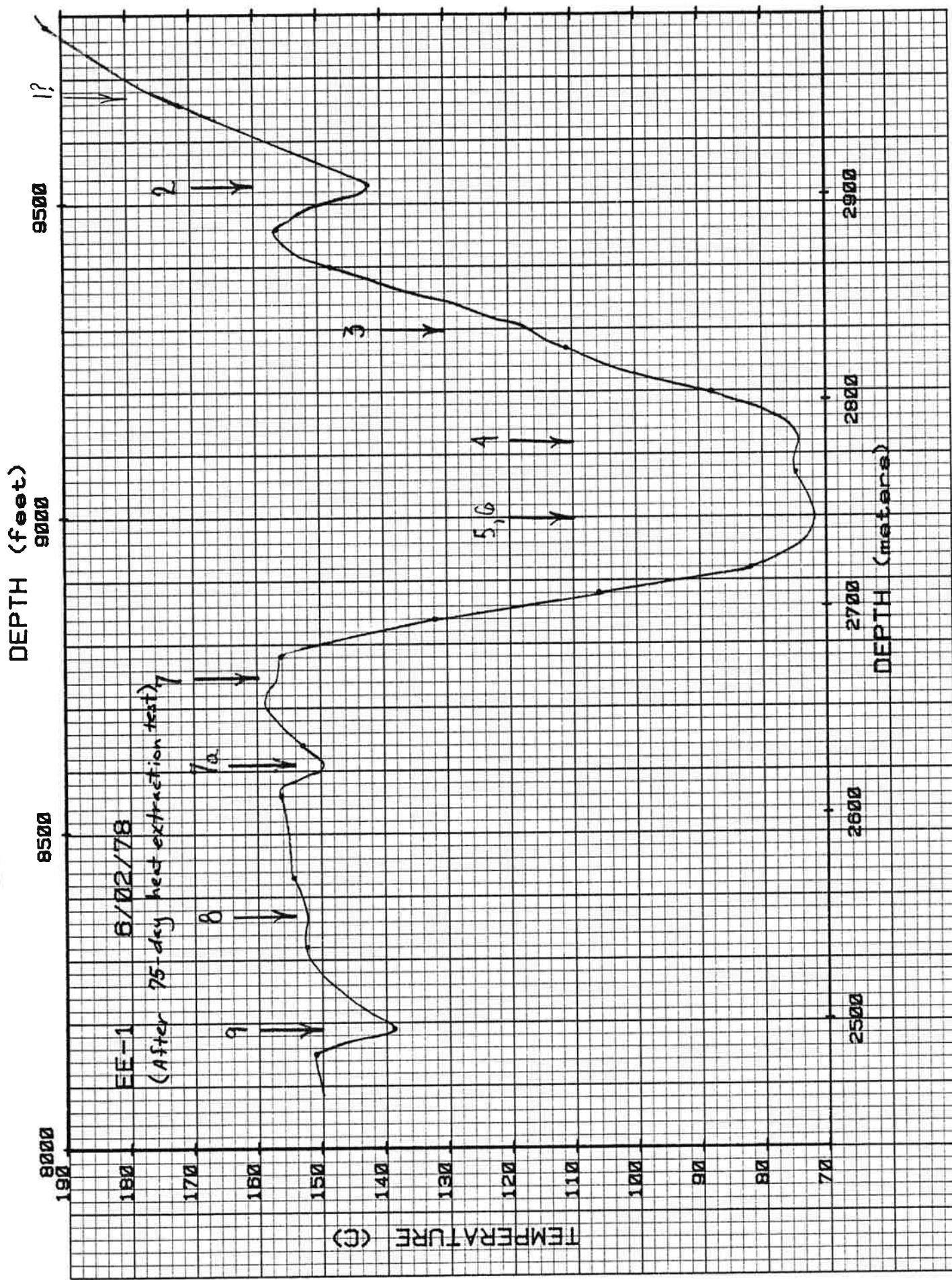


Figure 13

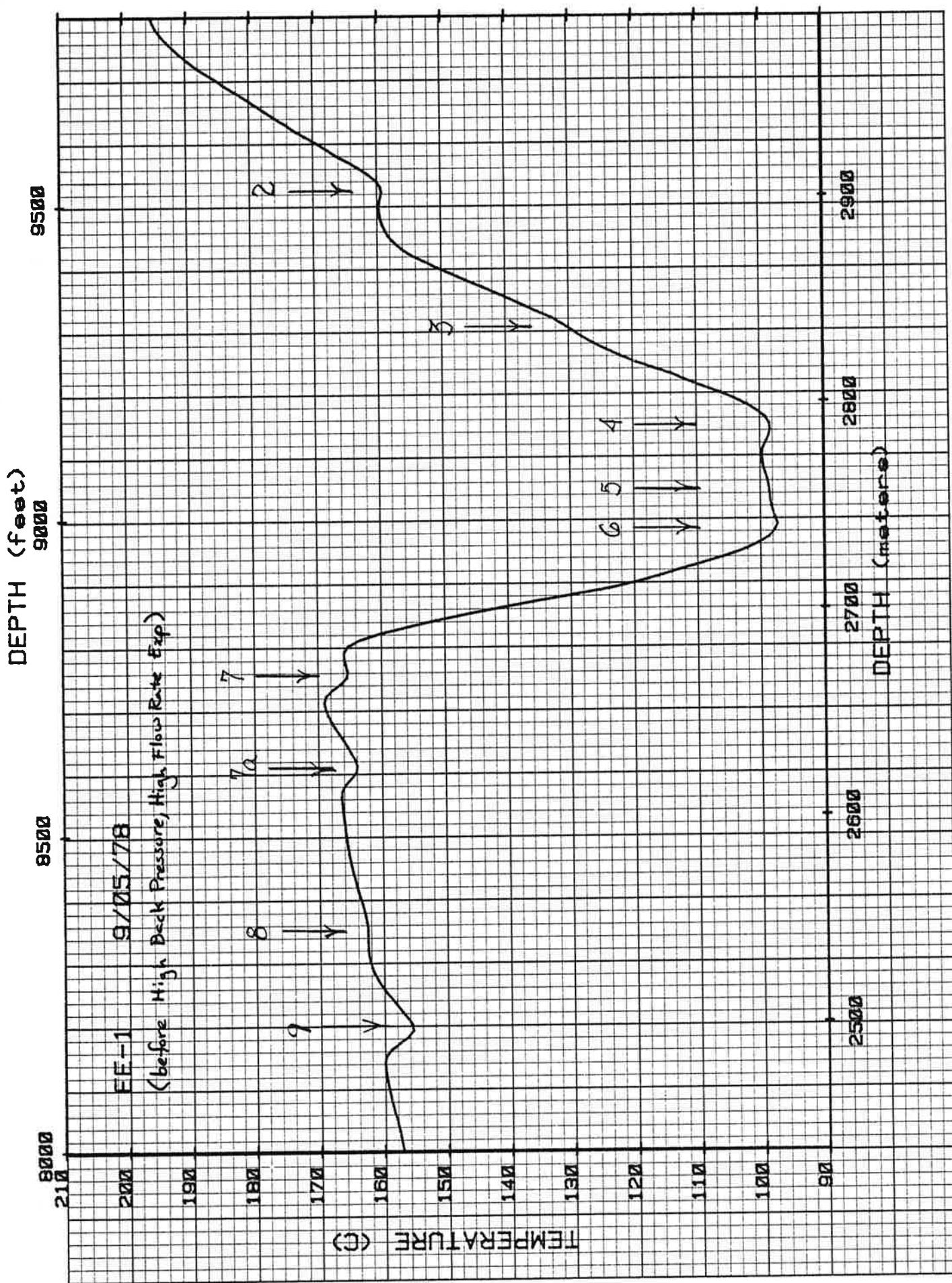


Figure 14

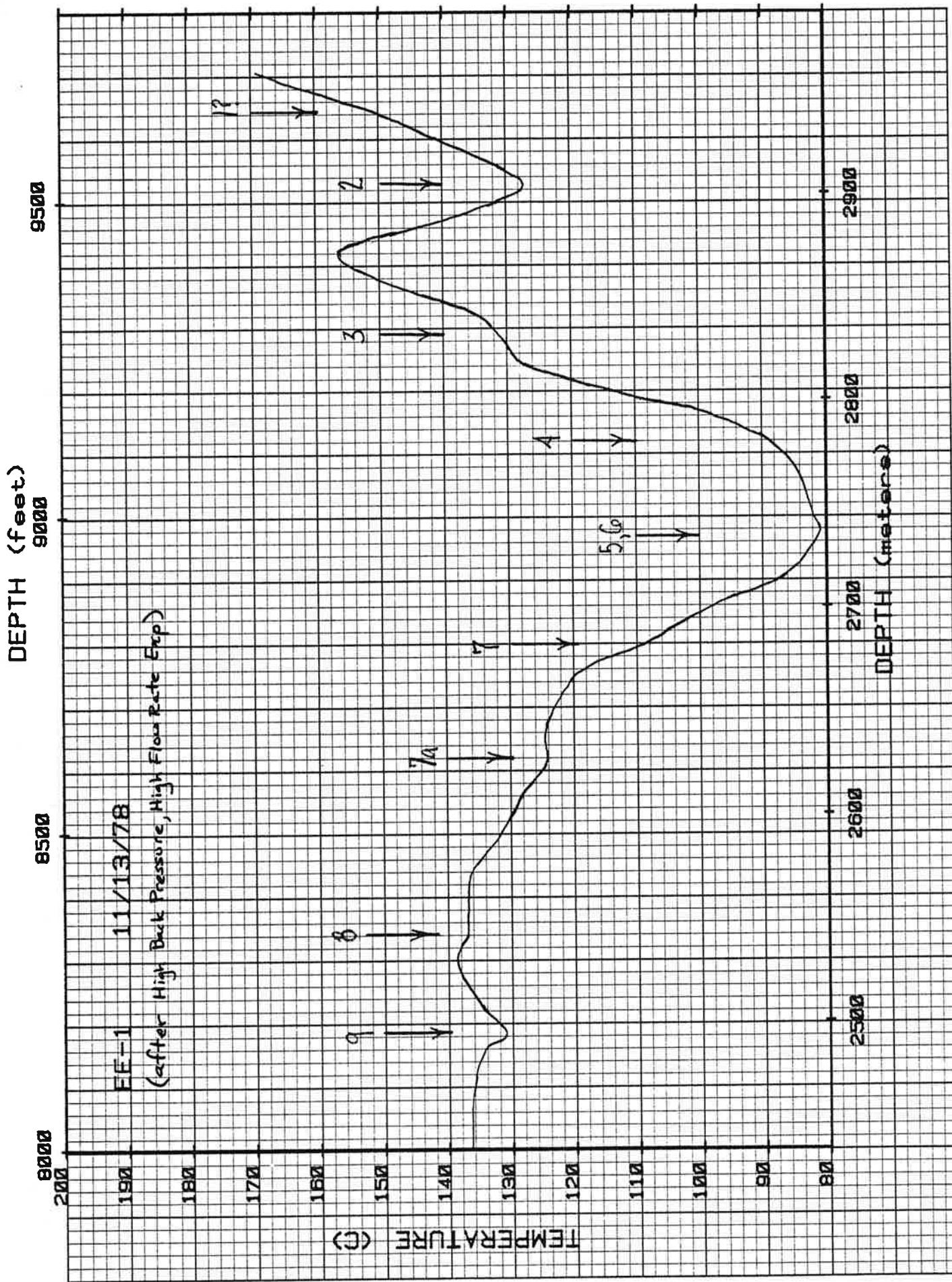


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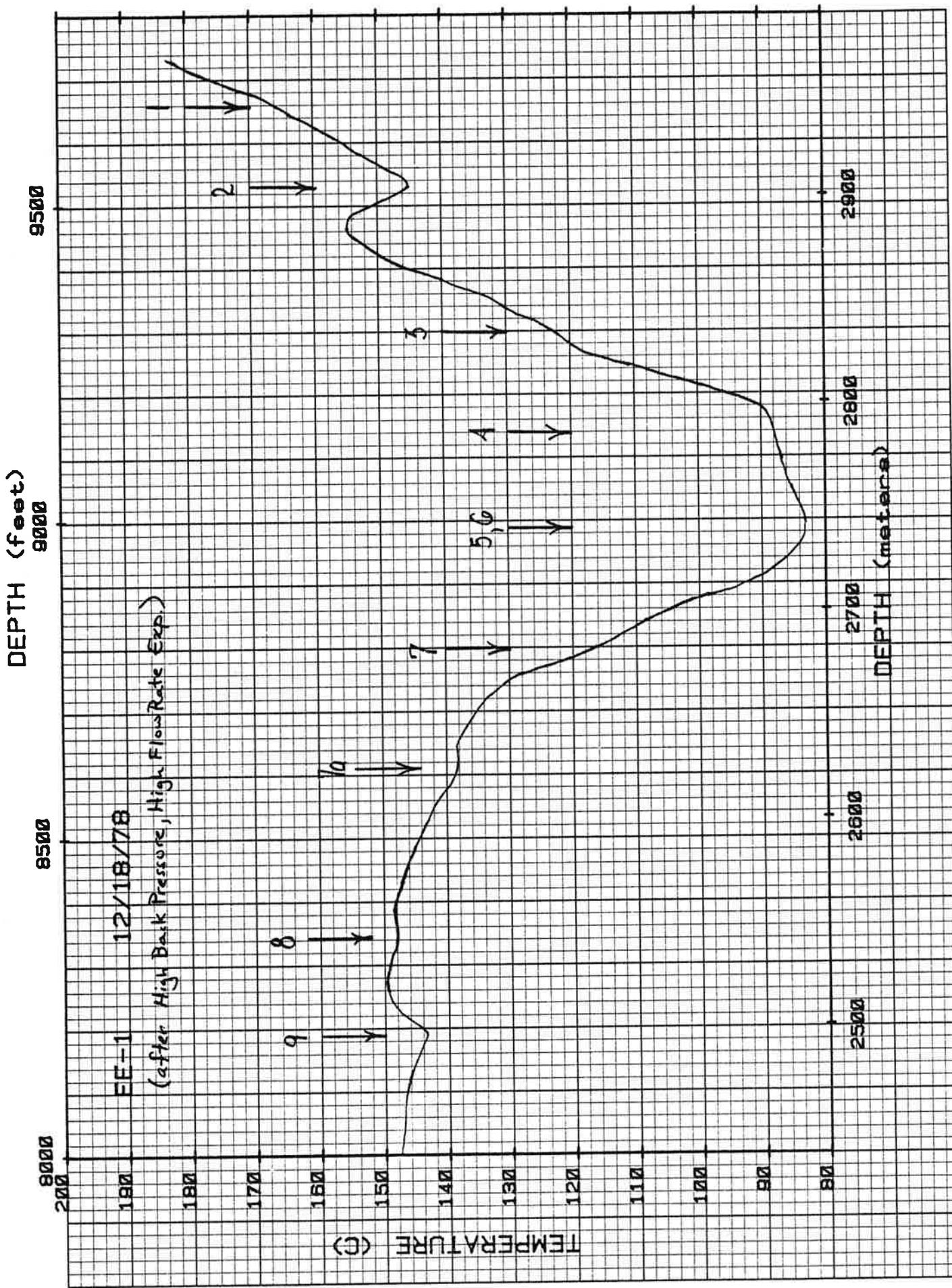


Figure 16

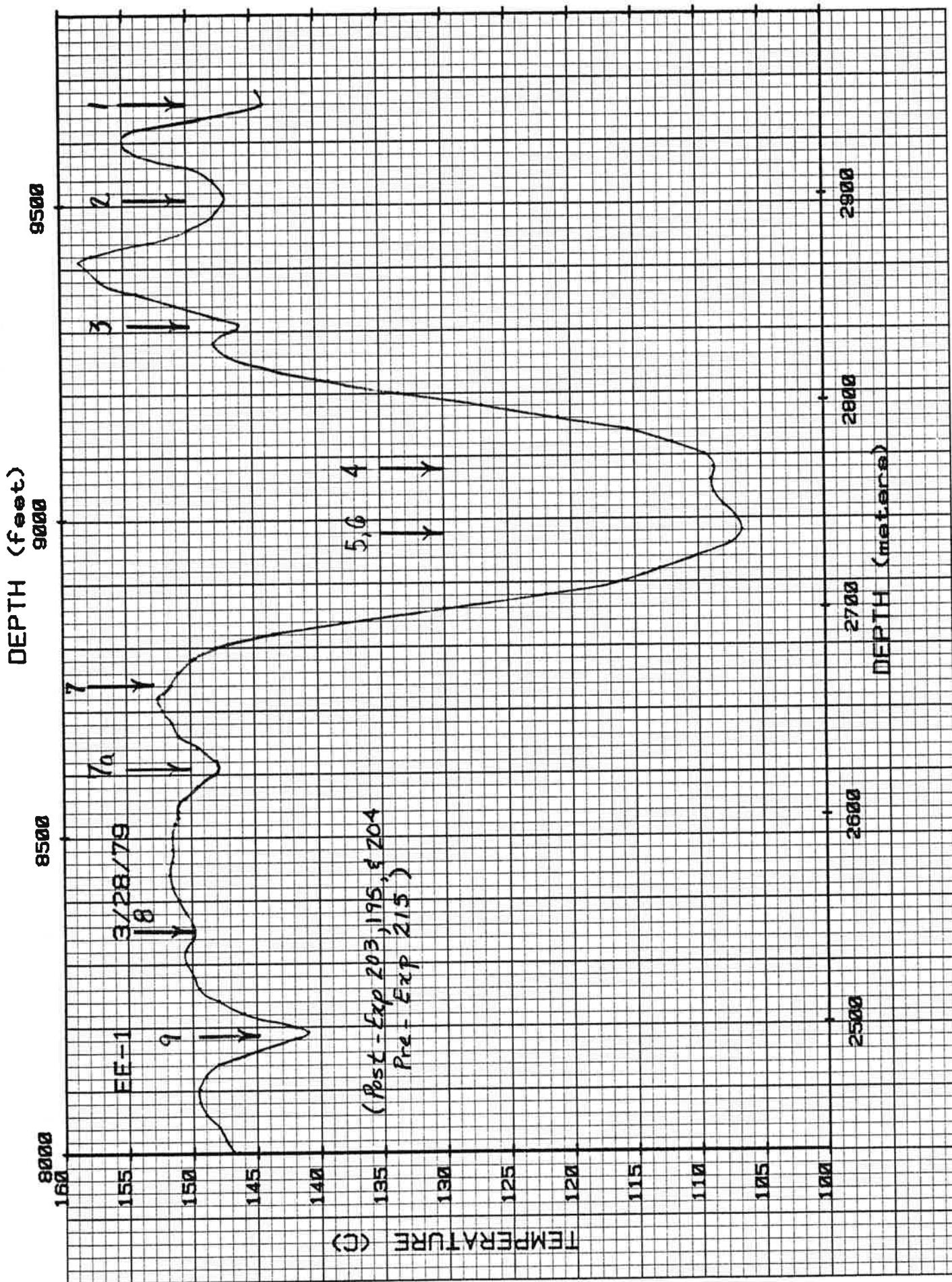


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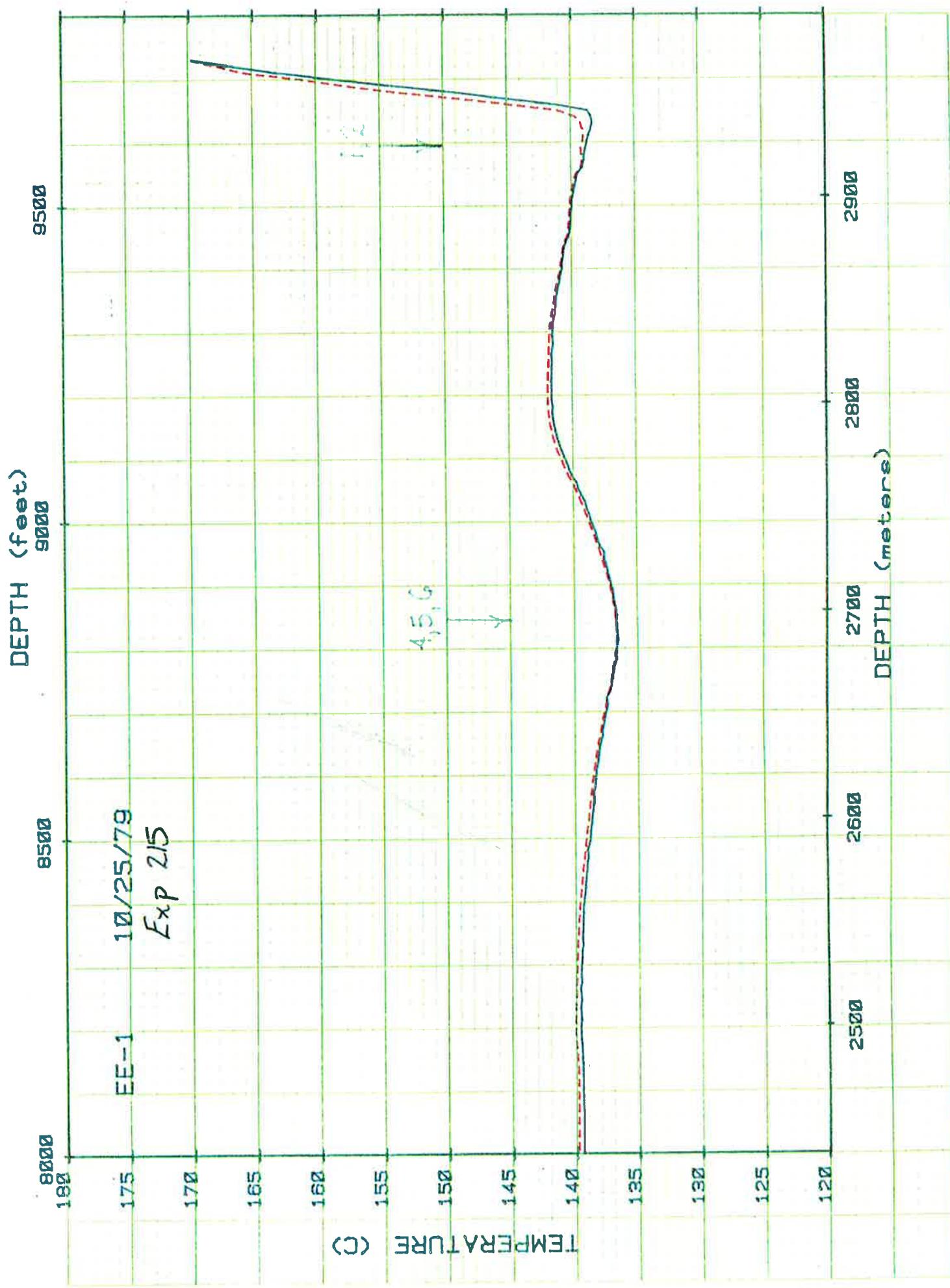


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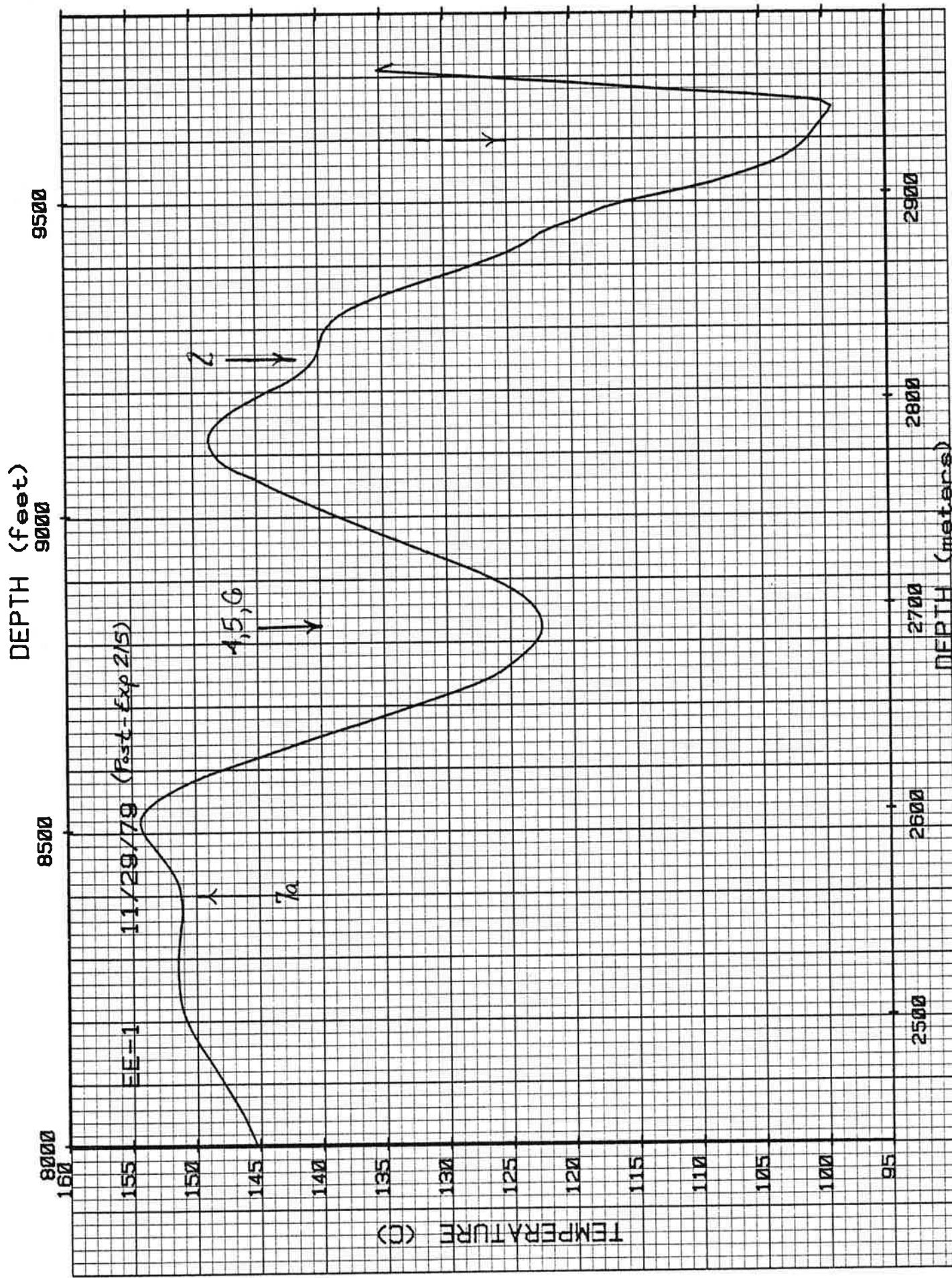


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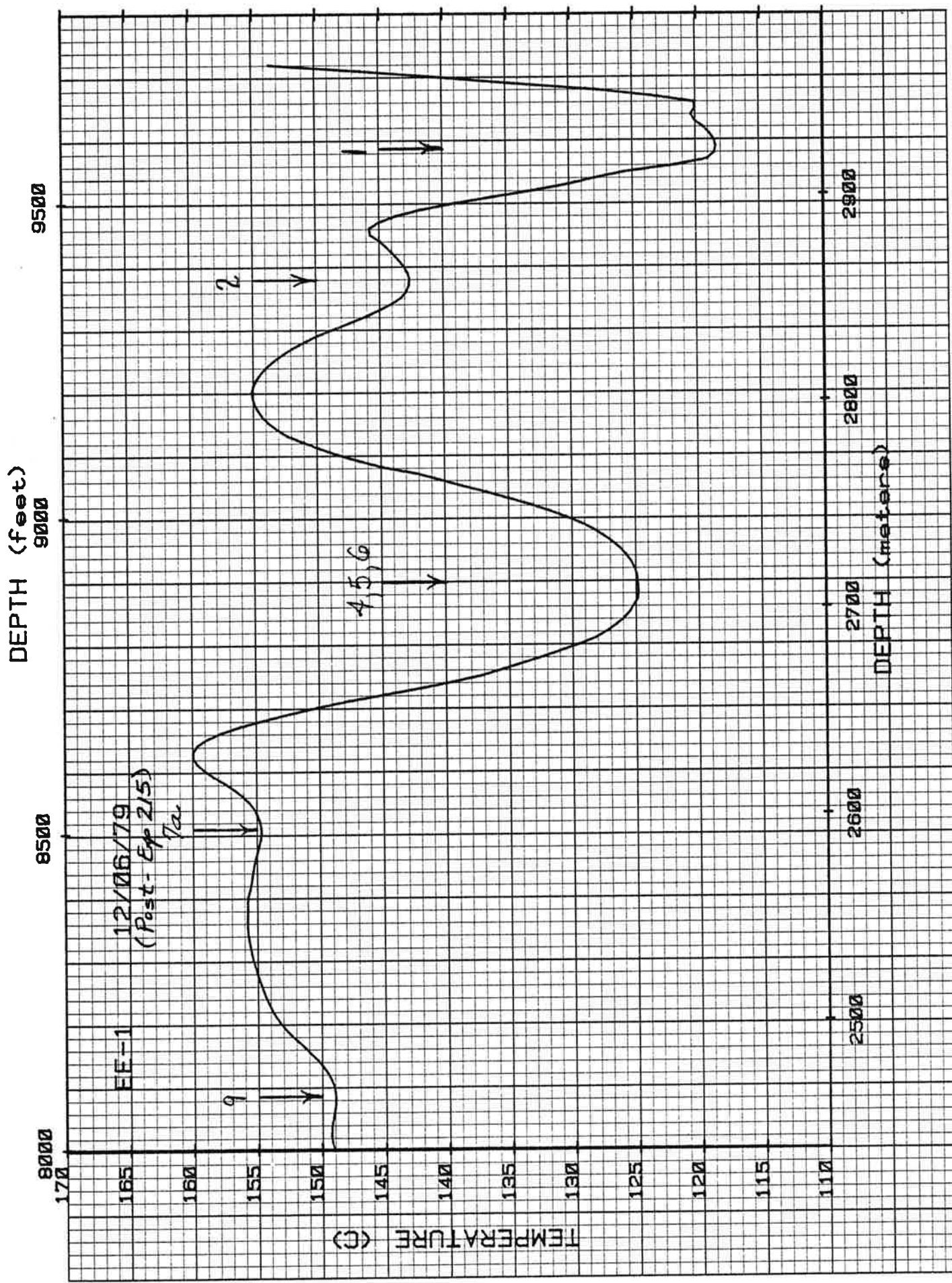


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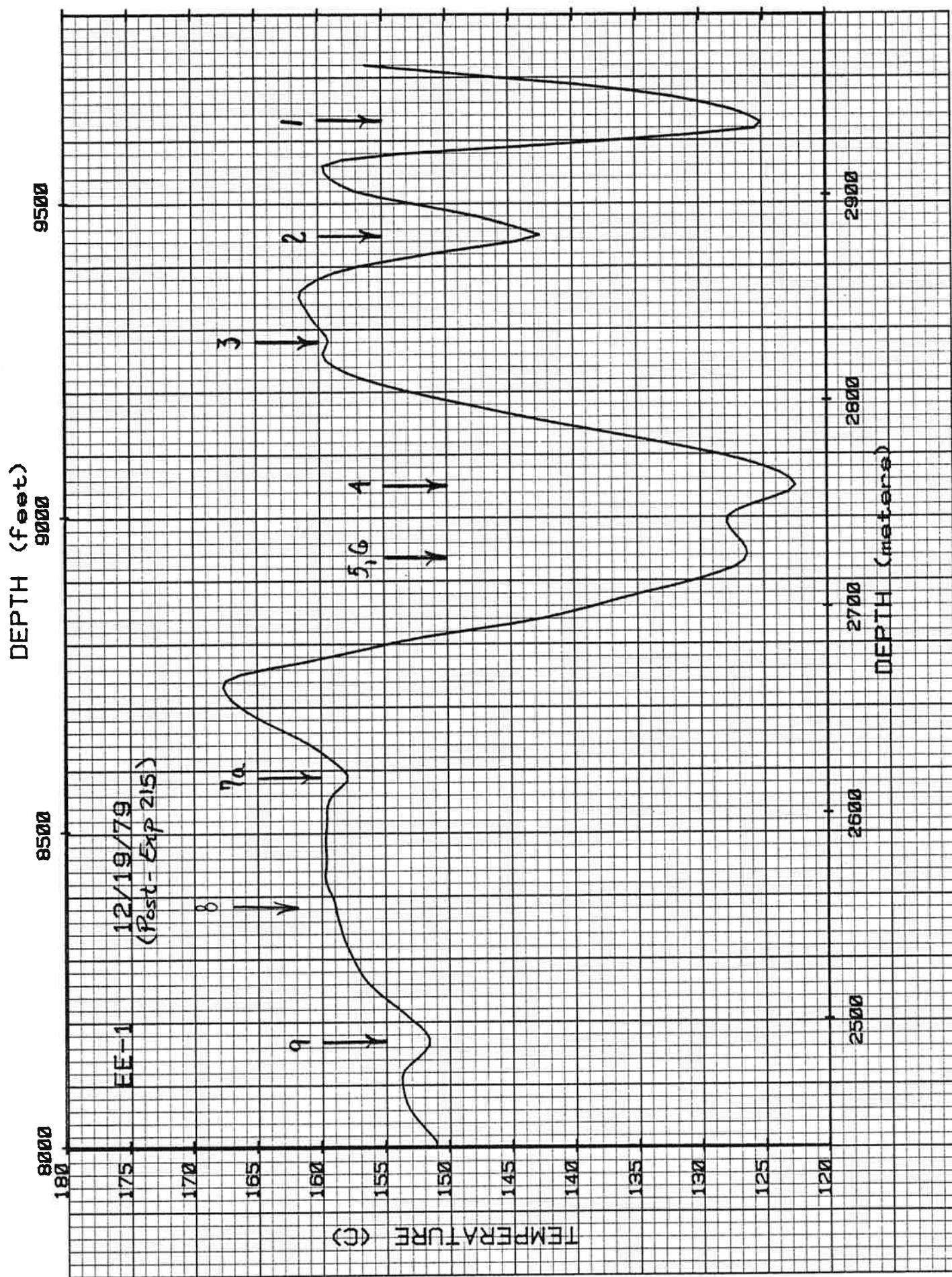


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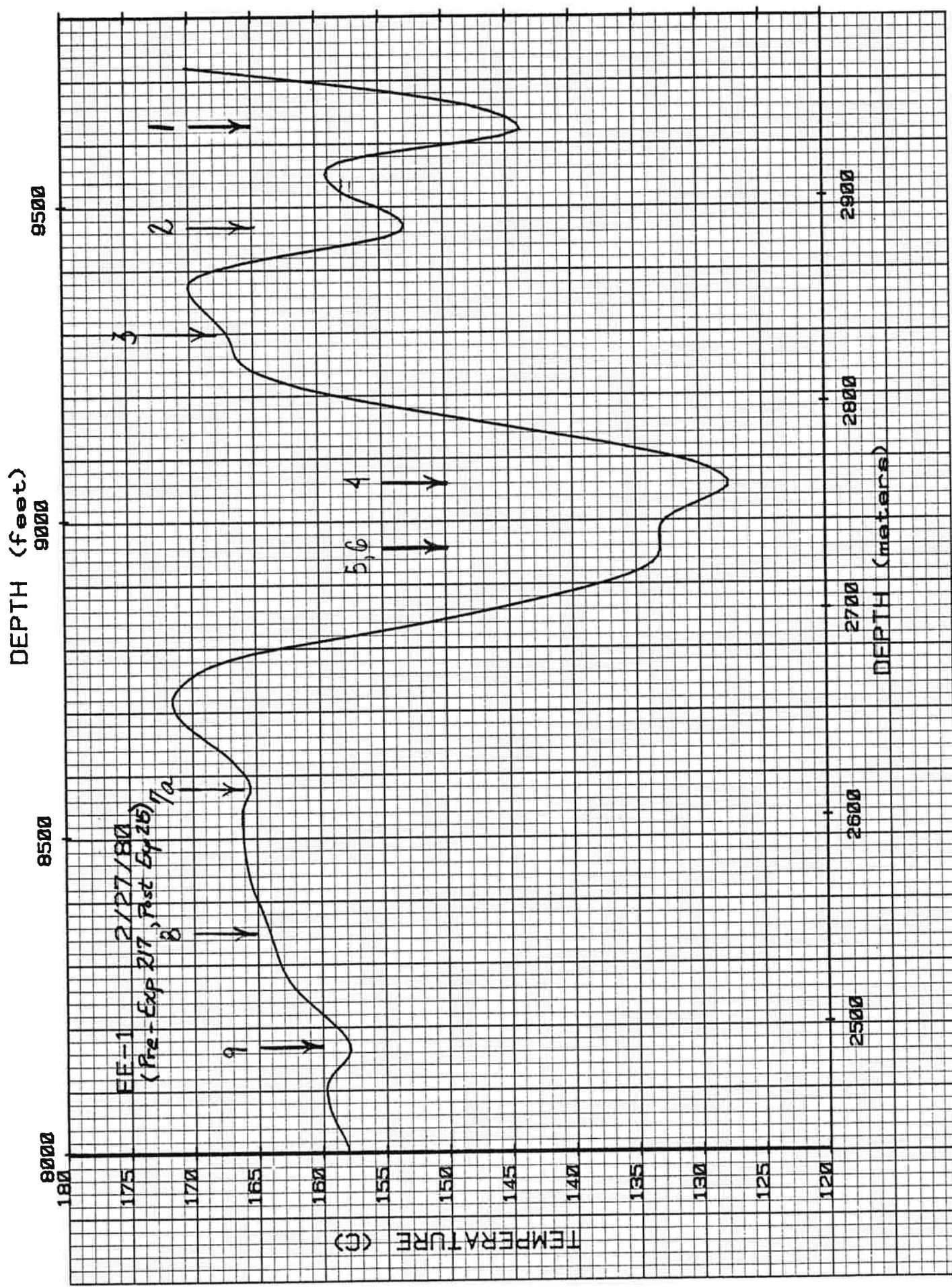


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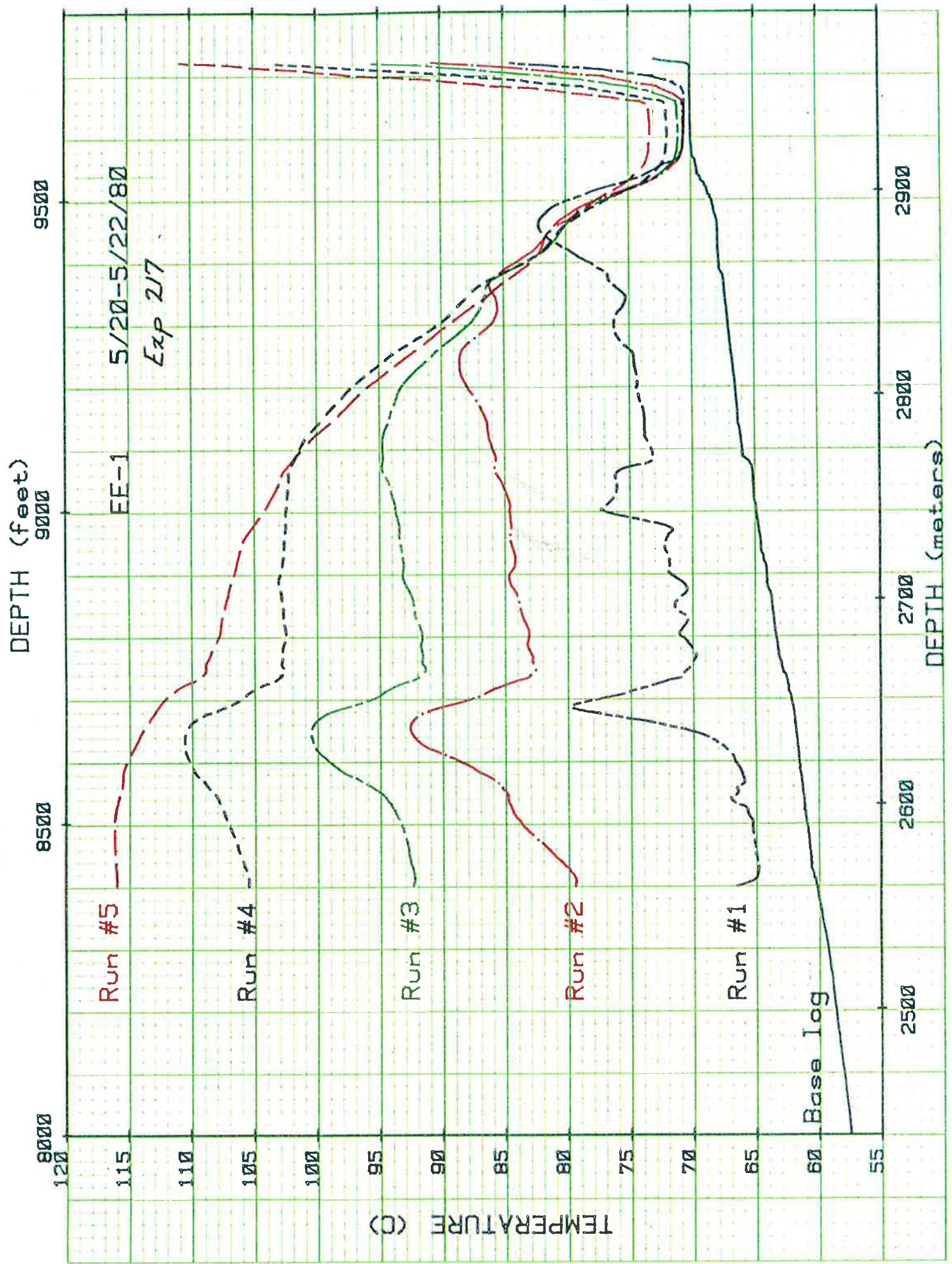


Figure 23



Figure 24

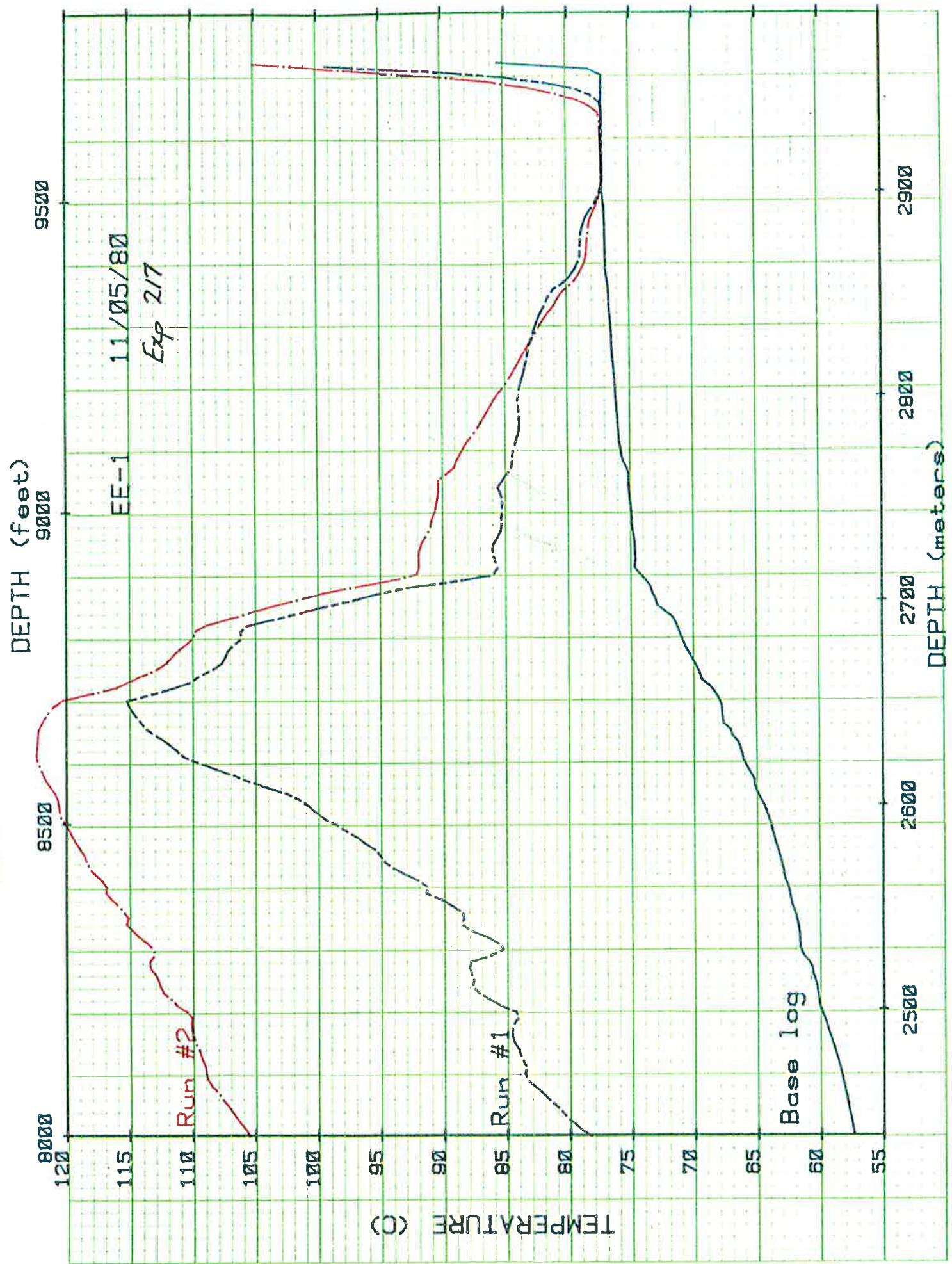


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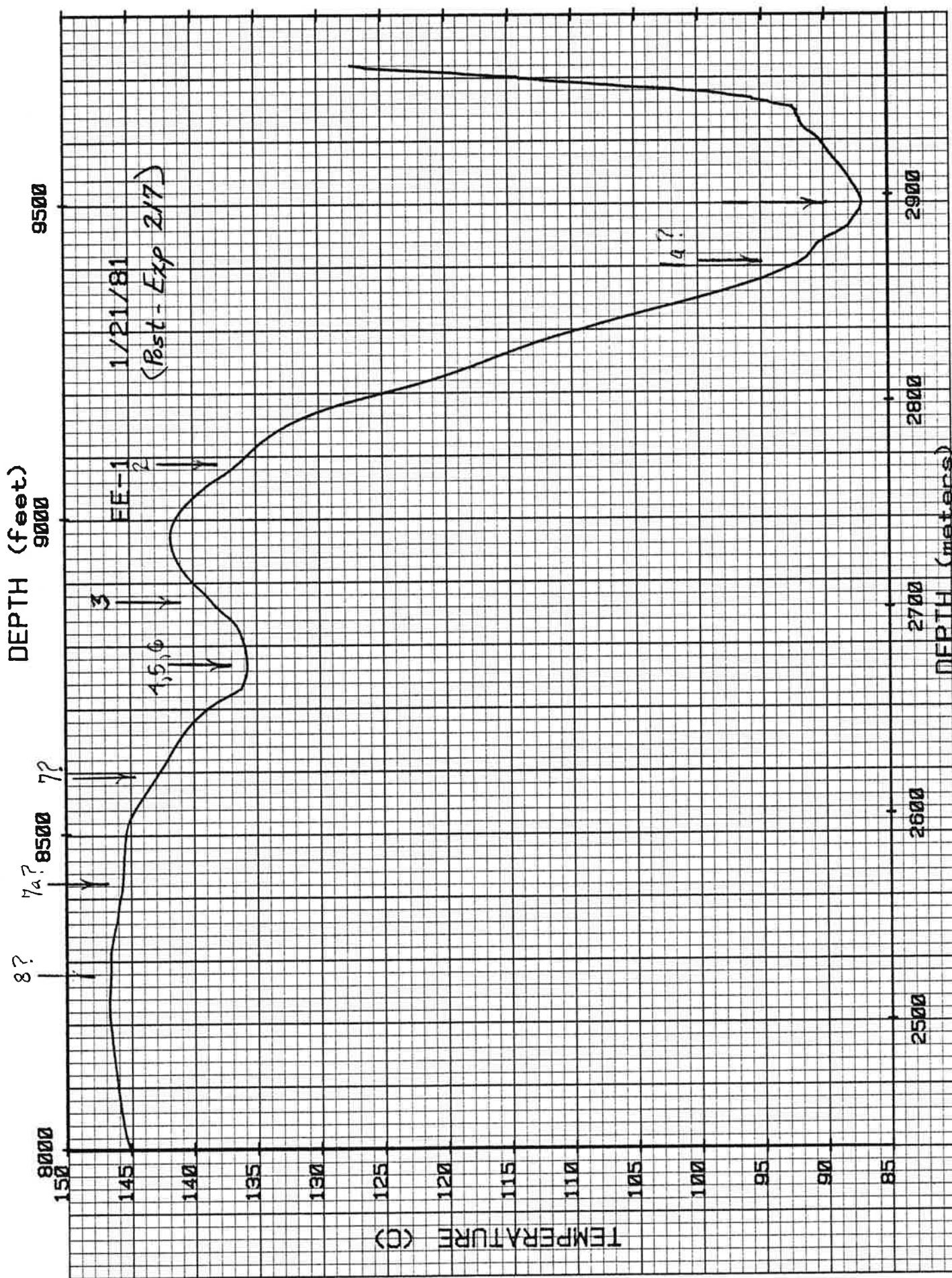


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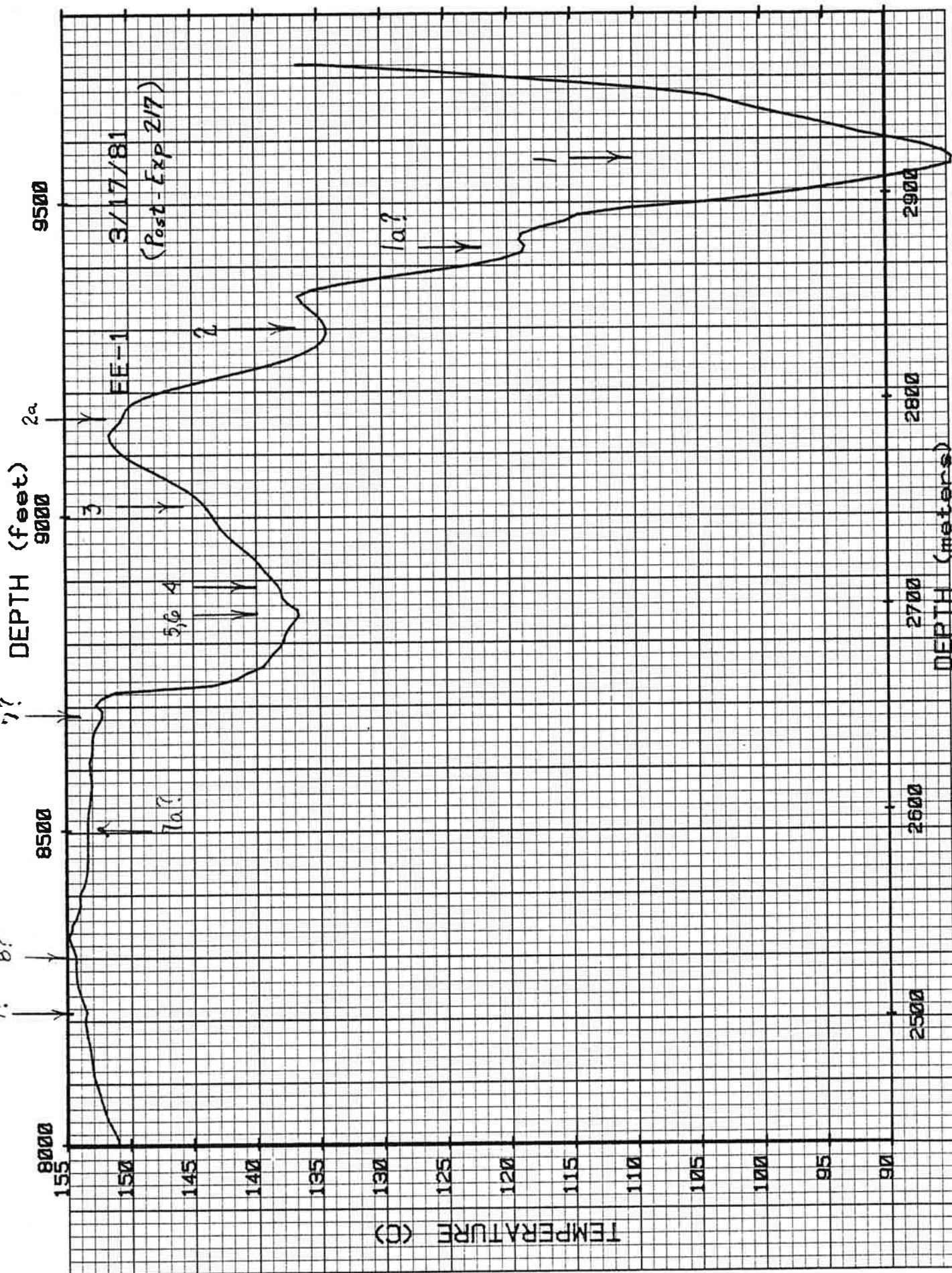


Figure 27